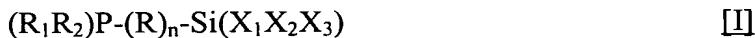


*CLAIM AMENDMENTS*

1. (Currently Amended) A method for forming an underlayer film for copper, characterized by comprising a process of bringing an underlayer film-forming material for copper including a compound represented by the following general formula [I] into contact with a surface of a substrate:

General formula [I]



wherein

at least one of  $X_1$ ,  $X_2$ , and  $X_3$  represents a hydrolysable group;

$R_1$  and  $R_2$  each represent an alkyl group;

$R$  represents a divalent linear organic group which is formed selected from the group consisting of an alkylene group, an aromatic ring, or and an alkylene group including an aromatic ring; and

$n$  represents is an integer of from 1 to 6.

2. (Currently Amended) A The method for forming a underlayer film for copper according to claim 1, characterized in that the underlayer film for copper is formed such that wherein the  $(R_1R_2)P-(R)_n-Si$  group thereof bonds to the substrate via a an Si-O bond, and the underlayer film for copper is formed by a reaction between -OH on the surface of the substrate and  $-Si(X_1X_2X_3)$  in a liquid phase.

3. (Currently Amended) A The method for forming an underlayer film for copper according to claim 1, characterized in that the underlayer film for copper is formed such that wherein the  $(R_1R_2)P-(R)_n-Si$  group thereof bonds to the substrate via a an Si-O bond, and the underlayer film for copper is formed by a reaction in a gas phase between -OH on the surface of the substrate and  $-Si(X_1X_2X_3)$ .

4. (Currently Amended) A The method for forming an underlayer film for copper according to claim 1, characterized in that the underlayer film for copper is formed such that wherein the  $(R_1R_2)P-(R)_n-Si$  group thereof bonds to the substrate via a an Si-O bond, and the underlayer film for copper is formed by a reaction in a supercritical fluid between -OH on the surface of the substrate and  $-Si(X_1X_2X_3)$ .

5. (Currently Amended) A The method for forming an underlayer film for copper according to claim 42, characterized in that wherein the reaction between -OH on the surface

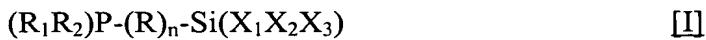
of the substrate and -Si(X<sub>1</sub>X<sub>2</sub>X<sub>3</sub>) is carried out at a temperature of room temperature to 450°C.

6. (Currently Amended) ~~A~~ The method for forming an underlayer film for copper according to claim 4<sub>2</sub>, ~~characterized by further comprising a process of including~~ removing by-product(s) produced in the reaction between -OH on the surface of the substrate and -Si(X<sub>1</sub>X<sub>2</sub>X<sub>3</sub>).

7. (Currently Amended) An underlayer film for copper ~~arranged, disposed~~ on a substrate, ~~characterized in that~~ wherein the film is formed such that a (R<sub>1</sub>R<sub>2</sub>)P-(R)<sub>n</sub>-Si group bonds to ~~a~~ the substrate via ~~a~~ an Si-O bond, ~~wherein~~ R<sub>1</sub> and R<sub>2</sub> each represent an alkyl group; R represents a divalent linear organic group ~~formed selected from the group consisting of~~ consisting of an alkylene group, an aromatic ring, ~~or and~~ and an alkylene group including an aromatic ring; and n ~~represents~~ is an integer ~~of~~ from 1 to 6.

8. (Currently Amended) An underlayer film for copper according to claim 7, ~~characterized in that~~ wherein the film is formed by a method ~~for forming an underlayer film for copper~~ including ~~a process of~~ bringing an underlayer film-forming material for copper, including a compound represented by the following ~~general~~ formula [I] into contact with a surface of a substrate.

General formula [I]



wherein

at least one of X<sub>1</sub>, X<sub>2</sub>, and X<sub>3</sub> represents a hydrolysable group;

R<sub>1</sub> and R<sub>2</sub> each represent an alkyl group;

R represents a divalent linear organic group ~~which is formed selected from the group consisting of~~ consisting of an alkylene group, an aromatic ring, ~~or and~~ and an alkylene group including an aromatic ring; and

n represents an integer ~~of~~ from 1 to 6.

9. (Currently Amended) A semiconductor device comprising:  
a substrate;  
an underlayer film for copper arranged on the substrate; and  
a wiring film ~~made up~~, mainly ~~of~~ comprising copper, and arranged on the underlayer film for copper, wherein

In re Appln. of MIKAMI et al.  
Application No. Unassigned

the underlayer film for copper is formed ~~such so that a~~ an  $(R_1R_2)P-(R)_n-Si$  group bonds to a substrate via ~~a~~ an Si-O bond, wherein  $R_1$  and  $R_2$  each represent an alkyl group;

$R$  represents a divalent linear organic group ~~formed selected from the group~~  
consisting of an alkylene group, an aromatic ring, ~~or~~ and an alkylene group including an aromatic ring; and

~~n represents~~ is an integer ~~of~~ from 1 to 6.